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PENNSYLVANIA
TEN-TON TOMATO CLUB

Report for the Year 1940

INV. '60

The Pennsylvania Ten-Ton Tomato Club

Sponsored by

The Pennsylvania Vegetable Growers' Association

TEN-TON TOMATO CLUB COMMITTEE:

H. W. HUFFNAGLE, Quarryville, Pa., *Chairman*
ALAN R. WAREHIME, Hanover, Pa.
JESSE M. HUFFINGTON, State College, Pa., *Secretary*

Acknowledgements

THE LANCASTER BONE FERTILIZER CO., *Incorporated, Manufacturers of Conestoga Brands, Fertilizers and Chemicals,* Quarryville, Pa.—This company, without solicitation, sponsored the ten-ton tomato club publication to the extent of paying for the first 2,000 copies. The Pennsylvania Vegetable Growers' Association, therefore, is grateful to this company for its public spirited attitude and interest in promoting the welfare of tomato and other vegetable growers by encouraging more efficient production practices. The Association also is indebted to Mr. H. W. Huffnagle, of this Company, for his unselfish efforts in the last five years as Chairman of the Ten-Ton Tomato Club Committee.

CANNING COMPANIES—who have agreed to purchase copies of the publication for their growers.

THE PENNSYLVANIA CANNERS ASSOCIATION, York, Pa.—Two silver cup awards—one for the highest yield recorded and another for the highest per cent of U. S. number one tomatoes harvested.

CAMPBELL SOUP COMPANY, Camden, N. J.—$50 for prizes.

D. E. WINEBRENNER COMPANY, Hanover, Pa.—$5.

THE HOUSE OF GLICK—$20.

GLICK'S PLANT FARM, Smoketown, Lancaster County, Pa. Flowering and vegetable plants—prepaid. Wholesale and retail. Disease free tomato plants a specialty.

GLICK'S SEED FARMS, Smoketown, Lancaster County, Pa. Improved strains of Rutgers, Marglobe, Grothens (Red) Globe, certified, grown on separate farms, and grown from healthy plants, started in steam sterilized soil, and sprayed.

The Pennsylvania Ten-Ton Tomato Project 1940

Purpose

The production of high quality tomatoes with large yields per acre and efficient use of labor and cash in growing, harvesting and marketing the crop is encouraged by reporting actual practices of successful growers. This is accomplished at the Annual Meeting, the publication of this report and at county meetings where growers give reports of accomplishments.

LIMING FOR LEGUMES PRECEDING TOMATOES

The proper use of lime and fertilizer is the starting point in preparing soil for Ten-Ton tomato yields. Practically all of the Ten-Ton crops were grown on land where sod and manure were included in the rotation.

Membership

All tomato growers in Pennsylvania producing two or more acres, whose receipts for tomatoes sold from these acres to the cannery, or in the open market, show a production of 10 or more tons per acre, are eligible for membership; provided a satisfactory record of production practices and labor and cash requirements is presented to the Committee. Record forms for keeping such accounts may be obtained from the County Agent at the beginning of the season, upon request by the individual interested in improving his practices of tomato production.

Certificates of membership are awarded to members who meet the qualifications satisfactorily. Additional awards are made in proportion to the funds available.

The requirements of membership may be revised by the Committee and suggestions are appreciated.

The Pennsylvania Ten-Ton Tomato Club

Sponsored by

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INTENTIONAL SECOND EXPOSURE

NUMBER OF DEMONSTRATIONS—206

TEN-TON RECORDS COMPLETED—123

DISTRIBUTION BY COUNTIES

County	Records Total	Records 10-Ton	County	Records Total	Records 10-Ton
Adams	12	6	Mifflin	5	1
Berks	2	0	Montgomery	2	2
Bucks	34	33	Montour	1	1
Chester	12	7	Northumberland	2	2
Columbia	6	0	Philadelphia	7	3
Cumberland	6	1	Schuylkill	2	1
Franklin	6	4	Snyder	7	1
Lancaster	71	47	Union	6	0
Lebanon	11	10	Wyoming	3	1
Luzerne	7	1	York	2	1
Lycoming	2	1		206	123

Growers Obtaining Highest Quality

	Acres	Tons per Acre	U. S. Grade 1st	2nd	culls
First—Bucks County					
Jno. Tomlinson, Langhorne, R. 2, Pa.	14½	13.79	86	13	1
Second—Lancaster County					
Isaac M. Brubaker, Lititz, R. 2, Pa.	2¾	12.42	82	18	
Third—Montour County					
Howard Ranck, Danville, R. 2, Pa.	2	14.2	80	19	1
Fourth—Lancaster County					
Christ S. Rohrer, Lancaster, R. 5, Pa.	3	14.59	79	20	1
Fifth—Adams County					
Park A. Lerew, York Springs, Pa.	3.1	12.99	79	20	1

Growers Producing Largest Yields

	Acres	Tons per Acre	U. S. Grade 1st	2nd	culls
First—Lycoming County					
B. L. Shipman, Muncy, R. 4, Pa.	3½	15.09	70	29	1
Second—Lancaster County					
David O. Boll, Manheim, R. 2, Pa.	2.9	14.98	65	35	
Third—Bucks County					
Herman G. Heuscher, Ivyland, Pa.	19	14.81	73	26	1
Fourth—Lancaster County					
Christ Rohrer, Lancaster, R. 5, Pa.	3	14.59	79	20	1
Fifth—Bucks County					
Roy Atha, Ivyland, Pa.	5¼	14.35	68	31	1

Methods Used in Producing High Quality Tomatoes

by JNO. TOMLINSON, Langhorne, R. 2, Pa.

First—Bucks County

VARIETY—Rutgers

PLANTS—Glass covered coldframe seedlings in steam sterilized soil.

SOIL—Medium loam, plowed in December, 8 inches deep, disced 3 times and rolled 3 times.

ROTATION—Corn '38, oats, sod '39.

FERTILIZER—1000 pounds 3-12-6 side of the row (2-3 inches deep) at planting time, and 400 pounds of 5-10-10 top dressing.

PLANTING—May 28, with transplanter after a rain, 98% stand, no replanting. Dusted once with copper-arsenate lime mixture.

SPACING—4 x 3½ feet or 14 square feet.

CULTIVATION—Deep and close first time, shallow later, ridged last time, a total of 4 times and one hand weeding. Picked by the basket.

SOIL SUITABLE FOR PLANTING

Such a soil is well-drained, rich in organic matter, plowed and harrowed early and deeply but not when too wet, it contains sufficient lime and commercial fertilizer down where the roots grow.

NUMBER OF DEMONSTRATIONS—206
TEN-TON RECORDS COMPLETED—123

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Bucks	34	33	Montour	1	1
Chester	12	7	Northumberland	2	2
Columbia	6	0	Philadelphia	7	3
Cumberland	6	1	Schuylkill	2	1
Franklin	6	4	Snyder	7	1
Lancaster	71	47	Union	6	0
Lebanon	11	10	Wyoming	3	1
Luzerne	7	1	York	2	1
Lycoming	2	1		206	123

Growers Obtaining Highest Quality

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First—Bucks County					
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Second—Lancaster County					
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Third—Bucks County					
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SOIL—Medium loam, plowed in December, 8 inches deep, disced 3 times and rolled 3 times.

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SOIL SUITABLE FOR PLANTING

Such a soil is well-drained, rich in organic matter, plowed and harrowed early and deeply but not when too wet, it contains sufficient lime and commercial fertilizer down where the roots grow.

INTENTIONAL SECOND EXPOSURE

Producing High Quality Tomatoes

by ISAAC M. BRUBAKER, Lititz, R. 2, Pa.

Second—Lancaster County

VARIETY—Marglobe and Rutgers (preferred)

PLANTS—Georgia field.

MANURE—10 tons stable.

SOIL—Medium (heavy) loam, plowed May 5, 7 inches deep disced once, harrowed twice, and rolled once.

ROTATION—Wheat, mixed sod, '38, sweet clover, corn '39.

FERTILIZER—0-20-20, 200 pounds and 20% superphosphate, 273 pounds per acre applied broadcast before planting. Superphosphate suspended in water as "plant starter."

PLANTING—May 18, with transplanter and water applied in the hill, 98% stand before and 100% after replanting.

SPACING—5½ and 3 ft., an average of 4¼, by 3 feet, or 12¾ square feet.

CULTIVATION—Shallow, 4 times double, no hand weeding.

by HOWARD RANCK, Danville, R. 2, Pa.

Third—Montour County

VARIETY—Marglobe

PLANTS—Southern field grown.

MANURE—Barnyard, 15 tons per acre.

SOIL—Medium loam, plowed 8 inches deep May 5, harrowed 6 times and rolled once

ROTATION—Clover '38, corn '39.

FERTILIZER—4-16-4, 500 pounds per acre, applied broadcast before planting.

PLANTING—May 25, by hand after a rain, stand 99% before and 100% after replanting.

SPACING—4 x 4 feet, 16 square feet.

CULTIVATION—Deep and close first time, then shallow, eight times.

by CHRIST ROHRER, Lancaster, R. 5, Pa.

Fourth—Lancaster County

VARIETY—Pritchard, 1 acre, Marglobe 1⅓ acres, and Rutgers ⅔ acre.

PLANTS—Southern, field grown.

SOIL—Medium loam, plowed April 15, 8 inches deep, disced 3 times and rolled twice.

ROTATION—*Hay* '38, corn '39.

FERTILIZER—4-16-4, 700 pounds applied in the row at planting time and 300 applied after planting.

PLANTING—May 15-18 with transplanter and water applied in the hill, 90% stand before replanting and 99% after.

CULTIVATION—Deep and close at first then shallow, ridged; six times, one hand weeding.

Common ryegrass, seeded in tomatoes or the crop preceding tomatoes at the rate of one bushel (20 to 30 lbs.) per acre, saves soil from erosion.

Leaving the ground bare over winter, either before or following tomatoes is a very costly practice.

Producing High Quality Tomatoes

by ISAAC M. BRUBAKER, Lititz, R. 2, Pa.

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SPACING—4 x 4 feet, 16 square feet.

CULTIVATION—Deep and close first time, then shallow, eight times.

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CULTIVATION—Deep and close at first then shallow, ridged; six times, one hand weeding.

Common ryegrass, seeded in tomatoes or the crop preceding tomatoes at the rate of one bushel (20 to 30 lbs.) per acre, saves soil from erosion.

Leaving the ground bare over winter, either before or following tomatoes is a very costly practice.

INTENTIONAL SECOND EXPOSURE

Producing Quality Tomatoes

by PARK A. LEREW, York Springs, Pa.

Fifth—Adams County

VARIETY—Rutgers, Source—Glick's Seed Farms, Smoketown, Pa.
PLANTS—Greenhouse transplants, grown by C. H. Musselman Company, Biglerville, Pa. Sprayed three times with Cupro-K.
MANURE—Stable, 7 tons per acre.
SOIL—Medium loam, plowed March 13, 7½ inches deep, disced 3 times and rolled once.
ROTATION—Mixed sod '38, corn with fodder turned down '39.
FERTILIZER—800 pounds 4-12-4 per acre, 600 applied broadcast before planting and 200 in the row at planting time.
PLANTING—May 17 with transplanter, water applied, stand 96% before and 99% after replanting.
SPACING—3½ x 3½ feet or 12¼ square feet.
CULTIVATION—Deep and close at first, then shallow. Slight ridge last time, 3 times, weeded by hand once.

Better than bare ground is rye or wheat, seeded and disced down with diseased tomato vines after the crop is harvested. Timothy, seeded in the rye or wheat following tomatoes, may have prevented the formation of the channel, shown above, and subsequent loss of much soil fertility.

Methods Used in Producing Large Yields of Tomatoes

by B. L. SHIPMAN, Muncy, R. 4, Pa.

First—Lycoming County
VARIETY—4000 Rutgers, 6000 Pritchard.
PLANTS—Georgia, field grown.
MANURE—Cow, 20 tons per acre.
SOIL—Medium loam, plowed 8 inches deep May, harrowed 4 times.
ROTATION—Timothy '38, corn '39.
FERTILIZER—630 pounds 5-10-10 per acre, applied broadcast before planting. Around each plant on June 15 was applied one pint of liquid barnyard manure, and, on 3½ acres, a mixture of 200 pounds potash, 1000 pounds wood ashes, and 1000 pounds hen manure.
PLANTING—May 25 by hand, water applied, stand 95% before and 98% after replanting.
DUSTING—Four times with 20-20-60.
SPACING—4 x 4½ feet, 18 square feet.
CULTIVATION—Shallow, four times, hoed two times.

by DAVID O. BOLL, Manheim, R. 2, Pa.

Second—Lancaster County
VARIETY—Marglobe and Rutgers (better)
PLANTS—Georgia field.
MANURE—13 tons stable manure per acre.
SOIL—Medium (heavy) loam, plowed April 20, 9 inches deep, disced twice, harrowed twice, and rolled twice.
ROTATION—Mixed sod '38, corn '39.
FERTILIZER—500 pounds 4-14-6 per acre. Plant starter dissolved in planting water.
PLANTING—May 6, with transplanter and water applied in the hill, 98% stand before replanting and 99½% after.
SPACING—58 x 36 inches, or 14½ square feet.
CULTIVATION—Deep and close at first, later deep only in the middle of the row, four times, no hand weeding.

by HERMAN G. HEUSCHER, Ivyland, Pa.

Third—Bucks County
VARIETY—Rutgers.
PLANTS—Georgia field.
MANURE—10 tons, half chicken half steer.
SOIL—Medium loam, plowed 8 inches deep April 25, disced 5 times.
ROTATION—Wheat, clover-grass sod '38, mixed hay, sweet corn '39.
FERTILIZER—8-16-16 on 8 acres and 3-12-6 on 11 acres, 800 pounds per acre (8-16-16 preferred) broadcast before planting, and top dressed 3-12-6 at the rate of 600 pounds per acre.
PLANTING—May 5, with transplanter and water applied in the hill, giving 97% before and 100% after replanting.
SPACING—4 x 3½ feet or 14 square feet.
CULTIVATION—Deep but not so close after first time. Six times and weeded once by hand.

Producing Quality Tomatoes

by PARK A. LEREW, York Springs, Pa.

Fifth—Adams County

VARIETY—Rutgers, Source—Glick's Seed Farms, Smoketown, Pa.
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ROTATION—Mixed sod '38, corn with fodder turned down '39.
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PLANTING—May 17 with transplanter, water applied, stand 96% before and 99% after replanting.
SPACING—3½ x 3½ feet or 12¼ square feet.
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MANURE—Cow, 20 tons per acre.
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ROTATION—Timothy '38, corn '39.
FERTILIZER—630 pounds 5-10-10 per acre, applied broadcast before planting. Around each plant on June 15 was applied one pint of liquid barnyard manure, and, on 3½ acres, a mixture of 200 pounds potash, 1000 pounds wood ashes, and 1000 pounds hen manure.
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SPACING—4 x 4½ feet, 18 square feet.
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VARIETY—Marglobe and Rutgers (better)
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SPACING—58 x 36 inches, or 14½ square feet.
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by HERMAN G. HEUSCHER, Ivyland, Pa.

Third—Bucks County
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PLANTS—Georgia field.
MANURE—10 tons, half chicken half steer.
SOIL—Medium loam, plowed 8 inches deep April 25, disced 5 times.
ROTATION—Wheat, clover-grass sod '38, mixed hay, sweet corn '39.
FERTILIZER—8-16-16 on 8 acres and 3-12-6 on 11 acres, 800 pounds per acre (8-16-16 preferred) broadcast before planting, and top dressed 3-12-6 at the rate of 600 pounds per acre.
PLANTING—May 5, with transplanter and water applied in the hill, giving 97% before and 100% after replanting.
SPACING—4 x 3½ feet or 14 square feet.
CULTIVATION—Deep but not so close after first time. Six times and weeded once by hand.

INTENTIONAL SECOND EXPOSURE

Producing Large Yields of Tomatoes

by CHRIST S. ROHRER, Lancaster, R. 5, Pa.

Fourth—Lancaster County
Practices recorded for fourth place in quality.

by ROY ATHA, Ivyland, Pa.

Fifth—Bucks County
VARIETY—Rutgers.
PLANTS—Georgia, field grown.
MANURE—10 tons per acre, stable.
SOIL—Medium loam, plowed 6½ inches deep April 20, disced 5 times, dragged 5 times.
ROTATION—Sod '37, Corn '38, sweet corn-rye '39.
FERTILIZER—4-16-10 in the row on 2 acres ("burned" the plants) and 3-12-6 on 3¼ acres at the rate of 600 pounds per acre. Plant starter used 30 pounds of 4-16-10 in 50 gallons of water. Side dressed with 300 pounds 10-0-15.
PLANTING—May 12-14 with transplanter and water applied in the hill. Half the plants lost on two acres where 4-6-10 and plant starter were used in the row. Other plants gave a 95% initial stand and 99% of the field survived after replanting.
SPACING—5 x 3 feet or 15 square feet.
CULTIVATION—Deep and close at first, then shallow, ridged last time, 8 times, no hand weeding.

SUDAN GRASS IS ONE OF MANY SUMMER GREEN MANURES.

Other summer green manure crops include Sudan grass seeded with soy beans, corn stalks, corn stover, and weed growth.

Members Qualified in 1940

Name and Address	*Acres*	*Tons per Acre*	*U. S. Grade 1st*	*2nd*	*culls*
ADAMS COUNTY					
Binner, H. W., Dillsburg, R. 1	5	11.95	67	32	1
Brough, Glen, Aspers	4	10.18	54	44	2
Davis, Calvin, York Springs	2	10.37	70	29	1
Keefer, Lloyd Lee, York Springs	5	10.25	67	32	1
Lerew, Park A., York Springs	3.1	12.99	79	20	1
Lobough, Chas., Gardners, R. 1	4	10.41	68	31	1
BUCKS COUNTY					
Atha, Roy, Ivyland	5.25	14.35	68	31	1
Baker, Harry C., Bristol, R. 1	10	10.12	56	41	3
Basara, Stephen, Bristol, R. 1	14	10.29	58	39	3
Brady, Edwin S., Jamison	16.5	10.53	77	22	1
Carter, Russell F., Yardley	10	12.75	63	34	3
Cornell, Horace B., Huntington Valley	3	14.10	62	34	4
Cornell, Leigh P., Feasterville	5	11.19	58	38	4
Crammer, E. H., Newtown	6	10.47	58	38	4
Drager, Adolph H., Yardley	16	10.21	68	38	1
Edwards, Furman A., Ivyland	7	12.13	65	33	2
Fulmer, W. Carl, Johnsville	10	11.65	53	43	4
Garges, Howard, Chalfont	3.96	14.04	62	35	3
Grabowski, Julius J., Sellersville, R. 1	9	12.6	64	34	2
Guzikowski, Marjon, R. 1, Yardley	24.5	10.28	53	44	3
Gusikowski, Walter, Woodside	9	12.82	53	44	3
Heuscher, Herman G., Ivyland	19	14.81	73	26	1
Hibbs, George, Bristol, R. 1	11.5	11.26	72	22	6
Horn, Fred, Newtown, R. 1.	12	10.1	66	32	2
Hunsberger, Rachel D., Chalfont, R. 1	3	11.02	65	33	2
Kirk, Amos K., Newtown	9	12.91	44	50	6
Livezey, Stanley R., Davisville	8	10.58	69	29	2
Long, C. M., Ivyland	6	12.51	64	34	2
Melsky, Sr., John R., Newtown	16	10.07	64	33	3
Miguelez, Andres, S., Langhorne	8.5	10.15	58	38	4
Paxson, Taylor A., Newtown, R. 1	7	11.73	46	50	4
Reed, Robert S., Bristol, R. 1	17.75	10.89	76	23	1
Rice, Mike, Langhorne, R. 2	16	11.89	56	41	3
Rosenberger, Henry G., Chalfont, R. 1	7.5	11.6	67	31	2
Savage, Ira J., Langhorne, R. 1	7.9	11.53	59	38	3
Solly, Walter J., Ivyland	25	10.07	75	24	1
Tomlinson, Jno., Langhorne, R. 2	14.5	13.79	86	13	1
Tomlinson, Samuel F., Newtown, R. 1	12	12.47	56	40	4
Vargo, Jr., Stephen, Newtown, R. 1	15	11.01	75	24	1
Incomplete record:					
VanSant, James M., Langhorne, R. 2	7.8	11.43	82	17	1
CHESTER COUNTY					
Kelly, J. Ralph, Kelton	5	13.35	56	41	3
Kennel, Amon M., Honeybrook	8.5	11.43	59	38	3
Slichter, W. Ambrose, Elverson	6.25	10.49	56	42	2
Smith, W. R., Oxford	17	11.36	57	40	3
Thompson, Norman M., Oxford, R. 2	10	12.94	64	32	4
Wise, Thomas S., Honeybrook	2.75	11.88	71	28	1
Zook, Morris, Jr., Honeybrook	8	10.64	71	28	1

Producing Large Yields of Tomatoes

by CHRIST S. ROHRER, Lancaster, R. 5, Pa.

Fourth—Lancaster County
Practices recorded for fourth place in quality.

by ROY ATHA, Ivyland, Pa.

Fifth—Bucks County
VARIETY—Rutgers.
PLANTS—Georgia, field grown.
MANURE—10 tons per acre, stable.
SOIL—Medium loam, plowed 6½ inches deep April 20, disced 5 times, dragged 5 times.
ROTATION—Sod '37, Corn '38, sweet corn-rye '39.
FERTILIZER—4-16-10 in the row on 2 acres ("burned" the plants) and 3-12-6 on 3¼ acres at the rate of 600 pounds per acre. Plant starter used 30 pounds of 4-16-10 in 50 gallons of water. Side dressed with 300 pounds 10-0-15.
PLANTING—May 12-14 with transplanter and water applied in the hill. Half the plants lost on two acres where 4-6-10 and plant starter were used in the row. Other plants gave a 95% initial stand and 99% of the field survived after replanting.
SPACING—5 x 3 feet or 15 square feet.
CULTIVATION—Deep and close at first, then shallow, ridged last time, 8 times, no hand weeding.

SUDAN GRASS IS ONE OF MANY SUMMER GREEN MANURES.

Other summer green manure crops include Sudan grass seeded with soy beans, corn stalks, corn stover, and weed growth.

Members Qualified in 1940

Name and Address	*Acres*	*Tons per Acre*	*U. S. Grade 1st*	*2nd*	*culls*
ADAMS COUNTY					
Binner, H. W., Dillsburg, R. 1	5	11.95	67	32	1
Brough, Glen, Aspers	4	10.18	54	44	2
Davis, Calvin, York Springs	2	10.37	70	29	1
Keefer, Lloyd Lee, York Springs	5	10.25	67	32	1
Lerew, Park A., York Springs	3.1	12.99	79	20	1
Lobough, Chas., Gardners, R. 1	4	10.41	68	31	1
BUCKS COUNTY					
Atha, Roy, Ivyland	5.25	14.35	68	31	1
Baker, Harry C., Bristol, R. 1	10	10.12	56	41	3
Basara, Stephen, Bristol, R. 1	14	10.29	58	39	3
Brady, Edwin S., Jamison	16.5	10.53	77	22	1
Carter, Russell F., Yardley	10	12.75	63	34	3
Cornell, Horace B., Huntington Valley	3	14.10	62	34	4
Cornell, Leigh P., Feasterville	5	11.19	58	38	4
Crammer, E. H., Newtown	6	10.47	58	38	4
Drager, Adolph H., Yardley	16	10.21	68	38	1
Edwards, Furman A., Ivyland	7	12.13	65	33	2
Fulmer, W. Carl, Johnsville	10	11.65	53	43	4
Garges, Howard, Chalfont	3.96	14.04	62	35	3
Grabowski, Julius J., Sellersville, R. 1	9	12.6	64	34	2
Guzikowski, Marjon, R. 1, Yardley	24.5	10.28	53	44	3
Gusikowski, Walter, Woodside	9	12.82	53	44	3
Heuscher, Herman G., Ivyland	19	14.81	73	26	1
Hibbs, George, Bristol, R. 1	11.5	11.26	72	22	6
Horn, Fred, Newtown, R. 1.	12	10.1	66	32	2
Hunsberger, Rachel D., Chalfont, R. 1	3	11.02	65	33	2
Kirk, Amos K., Newtown	9	12.91	44	50	6
Livezey, Stanley R., Davisville	8	10.58	69	29	2
Long, C. M., Ivyland	6	12.51	64	34	2
Melsky, Sr., John R., Newtown	16	10.07	64	33	3
Miguelez, Andres, S., Langhorne	8.5	10.15	58	38	4
Paxson, Taylor A., Newtown, R. 1	7	11.73	46	50	4
Reed, Robert S., Bristol, R. 1	17.75	10.89	76	23	1
Rice, Mike, Langhorne, R. 2	16	11.89	56	41	3
Rosenberger, Henry G., Chalfont, R. 1	7.5	11.6	67	31	2
Savage, Ira J., Langhorne, R. 1	7.9	11.53	59	38	3
Solly, Walter J., Ivyland	25	10.07	75	24	1
Tomlinson, Jno., Langhorne, R. 2	14.5	13.79	86	13	1
Tomlinson, Samuel F., Newtown, R. 1	12	12.47	56	40	4
Vargo, Jr., Stephen, Newtown, R. 1	15	11.01	75	24	1
Incomplete record:					
VanSant, James M., Langhorne, R. 2	7.8	11.43	82	17	1
CHESTER COUNTY					
Kelly, J. Ralph, Kelton	5	13.35	56	41	3
Kennel, Amon M., Honeybrook	8.5	11.43	59	38	3
Slichter, W. Ambrose, Elverson	6.25	10.49	56	42	2
Smith, W. R., Oxford	17	11.36	57	40	3
Thompson, Norman M., Oxford, R. 2	10	12.94	64	32	4
Wise, Thomas S., Honeybrook	2.75	11.88	71	28	1
Zook, Morris, Jr., Honeybrook	8	10.64	71	28	1

INTENTIONAL SECOND EXPOSURE

Members Qualified in 1940

Name and Address	Acres	Tons per Acre	U. S. Grade 1st	2nd	culls
CUMBERLAND COUNTY					
Marks, Gilbert, Gardners, R. 2	12	11.07	69	30	1
FRANKLIN COUNTY					
Benedict, John, Waynesboro, R. 1	10	10.56	68	31	1
Hartman, Abner, Chambersburg, R. 5	3	10.67	68	30	2
Stouffer, A. A., Waynesboro, R. 5	3.25	10.1	57	36	7
Wenger, D. H., Shippensburg, R. 3	11	11.2	53	42	5
LANCASTER COUNTY					
Boley, A. G., Narvon, R. 2	5	11	66	33	1
Boll, David O., Manheim, R. 1	2.9	14.98	65	35	
Bomberger, Homer, Manheim, R. 1	3	11.46	77	23	
Brubaker, Isaac M., Lititz, R. 2	2.75	12.42	82	18	
Brubaker, Jacob B., Manheim, R. 4	6.25	10.76	54	42	4
Brubaker, Levi H., Lancaster, R. 1	8	10.4	66	32	2
Brubaker, Levi N., Manheim, R. 2	3	11.92	66	34	
Bruckhart, Graybill, Manheim, R. 1	2	10	66	34	
Bushong, H. Ray, Lititz, R. 1	2	13.48	73	27	
Fisher, Amos H., Ronks	3.25	10.11	62	33	5
Fisher, Steven K., Vernon, R. 2	5	11.28	67	30	3
Frey, J. Mowery, Lancaster, R. 4	2.75	11.72	65	32	3
Garber, Snavely, Willow Street, R. 1	4.75	10			
Gehman, Allen, Ronks, R. 1	4	13	63	35	2
Gibble, Graybill, Manheim, R. 1	2.9	13.99	68	32	
Glick, Daniel M., Smoketown,	8	13.01			
Graybill, Homer, Manheim, R. 1	3.75	10.19	59	38	3
Harnish, A. Huber, Conestoga, R. 2	3	11.85	70	29	1
Heagy, A. B., Manheim, R. 1	11.13	14.01	62	34	4
Herr, Rudolph H., New Holland, R. 1	3	12	68	30	2
Hershey, D. Paul, Lititz, R. 1	6	11.4	66	34	
Hershey, Frank A., Lititz, R. 1	2.5	13.28	70	30	
Hershey, Graybill, Manheim, R. 1	6	10.2	70	30	
Hershey, Milton L., Manheim, R. 3	4	11.87	71	28	1
Hess, Charles H., Pequea, R. 1	3.5	10.5	64	35	1
Hollinger, Noah, Goodville	5	10.52	64	35	1
Houser, H. F., Lancaster, R. 4	2.6	12.61	62	35	3
Lehman, Milton H., Conestoga, R. 2	3	10	64	34	2
Longenecker, Abram H., Lititz, R. 2	2	10.4	74	26	
Martin, Carpinter W., Bird in Hand, R. 1	3.8	11.2	69	29	2
Mast, Levi. W., Narvon, R. 1	4.5	10.3	73	25	2
Mentzer, H. K., Kinzer, R. 1	3	10.42	70	28	2
Miller, Ray H., Manheim, R. 1	3.3	10.64	64	34	2
Myer, Charles G., Elm	4	11.38	69	30	1
Myer, Reuben, Lititz, R. 1	7	10.19	72	26	2
Myers, L. D., Bareville, R. 1	4	13.77	67	31	2
Neff, Harry K., Lancaster, R. 4	4	10.2	55	43	2
Petersheim, Mrs. Barbara, Elverson, R. 2	5.5	10.92	59	39	2
Reinhart, R. B., Refton	4	10.1	72	27	1
Risser, C. S., Lititz, R. 2	4.3	10.14	74	25	1
Rohrer, Christ, Lancaster, R. 5	3	14.59	79	20	1
Rosenberry, W. B., Lancaster, R. 4	3.2	14.21	57	41	2
Sensenich, Abram M., Lititz, R. 3	3	11.66	75	25	
Stoner, Henry, Lititz, R. 2	3	10.4	71	29	
Sweigert, W. G., Willow Street, R. 1	6	13.99	61	37	2

Members Qualified in 1940

Name and Address	Acres	Tons per Acre	U. S. Grade 1st	2nd	culls
LANCASTER COUNTY *(continued)*					
Warner, Mrs. Bertha H., Paradise	6	12.7	57	41	2
Weaver, Carl E. Manheim, R. 3	3	12.1	76	24	
Incomplete record:					
Eichelberger, Jacob, Manheim, R. 1	2	15	69	31	
LEBANON COUNTY					
Bollinger, Irwin E., Myerstown, R. 2	3.6	12.39	58	40	2
Hershey, Mark C., Lebanon, R. 5	7.9	12.22	68	31	1
Hetz, Landis G., Myerstown, R. 5	2.7	11.43	64	34	2
Haller, Erhard, Sheridan, R. 1	2.8	10.7			
Houser, Miles H., Lebanon, R. 5	4.62	10.68	60	39	1
Lentz, George M., Lebanon, R. 1	5.8	10.46	65	32	3
Light, David, Lebanon, R. 3	7.27	11.24	60	39	1
Meyer, Maurice M., Lebanon, R. 3	3.97	11.19	69	30	1
Moyer, Wm. H., Schaefferstown	3.97	10.86	58	41	1
Snyder, Robert J., Lebanon, R. 1	3.15	10.52	69	29	2
LUZERNE COUNTY					
Cooper, Ernest, Sugar Loaf, R. D.	2.25	11			
LYCOMING COUNTY					
Shipman, B. L., Muncy, R. 4	3.5	15.09	70	29	1
Incomplete Record:					
Shipman, Clinton, Muncy, R. 4	3.46	12.54	72	27	1
MIFFLIN COUNTY					
Yoder, Jacob R., Belleville	2.13	10.34	70	29	1
MONTGOMERY COUNTY					
Detweiler, C. L., Hatboro, R. D.	6	14.13	52	46	2
Weisel, Albert C., Prospectville	9.6	10.62	61	36	3
MONTOUR COUNTY					
Ranck, Howard, Danville, R. 2	2	14.20	80	19	1
NORTHUMBERLAND COUNTY					
Barner, H. E., Milton, R. 1	4.5	12.46	65	31	4
Campbell, Fay, Sunbury, R. 3	3	11.44	62	36	2
PHILADELPHIA COUNTY					
Bomanoski, Andy, Torresdale	8	11.09	69	29	2
Morrow Bros., Torresdale	20.76	11.46	59	37	4
Simons, John W., Torresdale	12.5	12.41	62	35	3
SCHUYLKILL COUNTY					
Wildermuth, Harry J., Pine Grove, R. 2	3.5	10.18	57	41	2
SNYDER COUNTY					
Stahl, B. W., Selinsgrove, R. 2	3.9	10.15	73	26	1
WYOMING COUNTY					
Burgess, Burl, Tunkhannock, R. D.	6	12.37			
YORK COUNTY					
Dick, Scott A., Dillsburg, R. 1	4.5	11.16	72	27	1
Incomplete Record:					
Allison, Harry, Seven Valley, R. D. 2	2.5	10.59			
Beck, Edgar, York, R. D. 6	2	10.06			
Myers, Guy, Seven Valley, R. 2	3	14.33			
Schnell, Edna, Shrewsbury	2	12.8			
Shaub, Alvin, New Freedom, R. D.	2.5	11.77			
Swartz, Chas. W., New Freedom, R. D. 2	3	10.14			

Tomato Costs and Production Practices in 1940

JESSE M. HUFFINGTON, *Specialist in Vegetable Gardening Extension*
and
MONROE J. ARMES, *Specialist in Farm Management Extension,*
The Pennsylvania State College, State College, Pa.

The acreage of tomatoes grown for canning in Pennsylvania was 7,900 during the ten-year period 1928 to 1937 as compared to 18,700 acres in 1940. Tomatoes grown for local markets was 1,460 acres during the same ten-year period and increased to 2,150 acres in 1940.

This increase in acreage of another important cash crop brings with it certain problems in the adjustment of farming operations to maintain high yields with high quality at low cost per ton.

The economic solution of problems relating to the maintenance of soil fertility, soil preparation, the proper use of lime and fertilizer, sources of plants, the adjustment of equipment, and harvesting are made easier when definite records are kept. Individual records assist the grower in planning each year's operations to conform to the needs of other crop and livestock enterprises. The records and experience of a large number of growers give valuable information as to the probable success and cost of different methods he may adopt in handling the crop.

A CLOVER-GRASS SOD IN THE ROTATION BUILDS AND SAVES THE SOIL.

Early and deep plowing, followed at once by harrowing and rolling or dragging, is necessary with a heavy grass sod. The addition of 200 to 300 pounds of nitrogen fertilizer before plowing hastens decomposition. The use of poison bait may also be necessary, sometimes spread broadcast over the field just before planting and applied again after the plants are set if damage is noticeable.

Tomato Costs and Production Practices in 1940

Soil

Well-drained, medium loam to heavy soil, rich in organic matter and properly limed, was used in most cases to produce ten-ton yields. Two thirds of all growers disced and harrowed, combined, three to four times.

NO FERTILIZER VS. FERTILIZER ON GOOD SOIL

Complete fertilizer usually is necessary for highest yields and best quality. Amounts, analyses and methods of application vary with soil type and fertility, equipment available, and labor requirements.

Fertilizer, Manure and Rotation

The average amount of fertilizer applied per acre for ten-ton yields was 841 pounds, and on crops producing less than ten ton per acre it was 683 pounds. In 1940 the average amount applied per acre was 606 pounds. In 1941, the average amount of fertilizer applied by all growers from whom records were obtained in the Lancaster-Lebanon County area, on mostly medium-heavy limestone soil, was 612 pounds per acre and in the Bucks-Philadelphia County area, on mostly medium loam to light loam soil, the figure was 947 pounds per acre. The average yield, from 54 records obtained in the former area, was 10.32 tons per acre and 10.19 in the latter.

A comparison of total pounds of actual plant food, or pounds of actual nitrogen, phosphoric acid and potash, applied, in the fertilizer, shows that of 87 growers, who applied less than 150 pounds or units per acre, 46 obtained ten-ton yields and 41 did not; of 86, who applied 150 to 250 pounds of plant food, 57 obtained ten-ton yields and 29 did not; and of 25 growers, who applied over 250 pounds of plant food, 20 obtained ten-ton yields and five did not. The same relative figures were obtained in 1936, when 20-ton yields were included. No doubt the growers who use the larger amounts of fertilizer, also, are more careful about general soil management and other cultural practices.

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INTENTIONAL SECOND EXPOSURE

Tomato Costs and Production Practices in 1940

The 150 pounds of actual plant food would be equivalent to about 750 pounds of 3-12-6, or similar, fertilizer, and the 250 pounds to 1200 pounds of similar fertilizer.

Thirty-nine per cent of the crops were produced where all the fertilizer was applied with a drill before planting, 14 per cent in the row, and 23 per cent used a combination of drilling broadcast and row application. The latter method is preferred where facilities are available. Plant starters, containing mostly soluble phosphoric acid, promoted earlier growth of the plants. They are added to the water applied in setting the plants.

Practically all of the ten-ton crops were grown on land where sod and manure were included in the rotation. Corn preceding tomatoes was considered a good practice and a rye grass cover crop, especially with the cornstalks turned down, made a good source of increased organic matter with soil erosion prevented. Following tomatoes with wheat enables the grower to utilize the commercial fertilizer in the wheat crop, at the same time turning down the tomato vines. This practice makes it desirable to apply at least a part of the fertilizer broadcast and just enough in the row to give the plants a good start.

FERTILIZER VS. NO FERTILIZER ON POOR SOIL

Varieties

Rutgers was used most generally for canning and the local markets. The Baltimore and John Baer or Bonnie Best strains were more subject to blossom end rot and, with the latter, poor vigor of foliage. Marglobe did not always develop the deep red interior color desired and appears to be more subject to radial cracking than Rutgers but does have greater solidity and is more nearly round. Pritchard did well in fertile soils where early maturity was desired, and was preferred particularly as a local market tomato, grown on stakes, on account of its high quality.

Tomato Costs and Production Practices in 1940

Plants

The cold, cloudy season of 1940 was a difficult one for local plant growers, especially those who did not have glass covered frames to admit full sunlight and some method of heating the beds for emergency frost protection. Local plants may cost more but their growth and condition can be controlled and disease infection minimized if certain definite procedures are followed. The importance of well-grown, healthy plants whatever the source, cannot be overemphasized.

EARLY AND WELL-GROWN PLANTS INCREASE YIELDS

Plants grown locally from seedlings started in disease-free soil, March 15 to April 1 and transplanted directly in the frames or in plant boxes and transferred to the frames, generally, are more profitable than plants seeded directly in the frames. Covering the beds with black paper before germination, heating in cold weather with electric cable, Mazda B type electric bulbs, steam or hot water pipes are methods used to hasten the growth and maturity of plants seeded directly in the frames. Glass sash, or cellulose acetate film .005 inches in thickness, admits much more sunlight in the daytime than muslin or tobacco cotton but should be covered with mats or straw on cold nights.

Planting

Seventy-five per cent of the plantings made from May 15 to 31 produced 10 or more tons per acre while only 5% of the plantings made after this date produced ten tons per acre.

Forty-one per cent of the ten-ton growers allowed, on the average, 14 to 16 square feet per plant and 35 per cent allowed 12 to 14 square feet per plant.

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The cold, cloudy season of 1940 was a difficult one for local plant growers, especially those who did not have glass covered frames to admit full sunlight and some method of heating the beds for emergency frost protection. Local plants may cost more but their growth and condition can be controlled and disease infection minimized if certain definite procedures are followed. The importance of well-grown, healthy plants whatever the source, cannot be overemphasized.

EARLY AND WELL-GROWN PLANTS INCREASE YIELDS

Plants grown locally from seedlings started in disease-free soil, March 15 to April 1 and transplanted directly in the frames or in plant boxes and transferred to the frames, generally, are more profitable than plants seeded directly in the frames. Covering the beds with black paper before germination, heating in cold weather with electric cable, Mazda B type electric bulbs, steam or hot water pipes are methods used to hasten the growth and maturity of plants seeded directly in the frames. Glass sash, or cellulose acetate film .005 inches in thickness, admits much more sunlight in the daytime than muslin or tobacco cotton but should be covered with mats or straw on cold nights.

Planting

Seventy-five per cent of the plantings made from May 15 to 31 produced 10 or more tons per acre while only 5% of the plantings made after this date produced ten tons per acre.

Forty-one per cent of the ten-ton growers allowed, on the average, 14 to 16 square feet per plant and 35 per cent allowed 12 to 14 square feet per plant.

INTENTIONAL SECOND EXPOSURE

Tomato Costs and Production Practices in 1940

HANDLE SHIPPED PLANTS CAREFULLY

As soon as tomato plants are received they should be opened, the stems kept dry and the roots moist but not wet. Plants and much cash may be saved by having a deep furrow plowed on one side of the field, where the plants may be set immediately upon arrival, covering the roots with moist soil, leaving the stems and tops fully exposed to the sunlight and spacing them at least one inch apart.

The distance between plants should be varied according to the fertility of the soil and the variety as it influences vine growth. Wide rows, 4 to 5 feet, may make it easier to pick the crop. Check-rowing with cross cultivation may help to eliminate hand weeding and cut down labor requirements.

Cultivation

Three to four times is the number of times the crop was cultivated by 69 per cent of the ten-ton growers, and one-half the growers weeded by hand once or twice. One deep cultivation, close to the plants to prevent weed or grass from starting, followed by shallow cultivation through the entire season was practiced by nearly all of the ten-ton growers.

General Practices

Tomato growers obtaining yields of ten or more tons per acre considered the following to be important controllable factors of production:

(1) The use of clean seed, clean plants, and clean soil.

(2) Planting only well-grown, stocky, carefully seasoned plants.

(3) Selecting only fertile, well-drained soil, well supplied with organic matter from applications of manure or the turning down of sod or cover crops in the rotation.

Tomato Costs and Production Practices in 1940

PLANTS MADE THESE DIFFERENCES

Plants started too late and too tender at planting time resulted in slow early growth and a poor stand, as shown by the plants on the left. The opposite extreme is shown on the right, where the plants were too old and in poor condition at planting time.

(4) The use of complete fertilizer—0 to 4% nitrogen, 12 to 16% phosphoric acid, and 4 to 6% potash—at the rate of 600 to 1,000 pounds per acre was generally conceded to be necessary for large yields. The method of application was, preferably, two to three inches deep or in the "root zone of the plant" and in solid bands unmixed with the soil, either before, at the time of, or immediately after planting. Row application—two to three inches from the plant was preferred when only a small amount per acre (500 pounds) can be purchased. A small amount in the row (200 pounds) and a larger application broadcast (500 to 800 pounds) was another practice; while another group applied all of the fertilizer broadcast before planting, usually in larger amounts per acre. Additional side dressings of nitrogen or nitrogen and potash were sometimes made on lighter soils where needed, or according to recommendations and as indicated by the general fertility of the soil and the growth of the vines.

(5) The first cultivation was usually deep, especially where it was felt that the initial soil preparation was none too good. Particular emphasis was placed upon the importance of cultivating as closely as possible the first time to prevent weeds or grass from obtaining a start near the plants. The later cultivations were practically always shallow. Sometimes soil was thrown up to the plants to prevent weed growth.

(6) Supervision of pickers by a paid foreman, who kept track of each individual picker, or picking by the family in order to obtain the highest grade and the most cash from each ton delivered.

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INTENTIONAL SECOND EXPOSURE

Cost of Producing Tomatoes

Records of the cost of producing tomatoes were secured from 205 growers. One hundred ninety-eight of these records are included in the following summary. The other seven records were not included because irregularities in the method of producing the crop made direct comparison impossible. One hundred twenty-three of the records in the summary are from growers producing ten or more tons per acre.

The following factors were used in calculating the cost of production:

Man labor was charged at 25 cents per hour, horse labor at 15 cents per hour, and truck and tractor at 85 cent per hour.

Manure was charged to the crop at 75 cents per ton when produced on the farm and purchased manure at one half its cost. Commercial fertilizer was all charged to the tomato crop.

Interest was charged at 5 per cent on the investment in land and equipment. The investment in general farm machinery used was prorated on the basis of total crop acreage in the farm. Ten per cent depreciation was charged on the investment in equipment.

The average investments per acre were $112.28 in land and $6.29 in equipment. This does not include the value of trucks and tractors since they were charged at the hourly rate.

A GOOD STAND BEFORE REPLANTING MAY MEAN PROFIT INSTEAD OF LOSS

The soil at the left was too wet when prepared for planting. The plants were set poorly and in a puddling wet soil. A ten-ton tomato grower gave some neighborly advice before the better part of the field was prepared and planted.

Cost of Producing One Acre of Tomatoes in Pennsylvania — 1940

The following table gives the total costs involved in producing an acre of tomatoes in various sections of the state and for the state as a whole:

	Bucks Chester Philadelphia Montgomery Counties	*Adams York Cumberland Mifflin Franklin Counties*	*Snyder Union Lycoming Northumberland Counties*	*Columbia Luzerne Wyoming Montour Schuylkill Counties*	*Lancaster Berks Lebanon Counties*	*Pennsylvania*
Number of Records	54	31	16	17	80	198
Fertilizer (lbs.)	947	633	584	802	612	784
Manure (tons)	5.58	8.14	7.90	7.40	7.46	6.65
Number of Acres	607.61	152.53	72.27	51.63	363.36	1,247.40
Yield (tons)	10.32	8.23	6.78	7.18	10.19	9.69
COSTS OF:						
Plants	$ 9.48	$ 11.05	$ 8.08	$ 12.30	$ 8.37	$ 9.38
Int., Dep., Tax	8.94	5.82	4.78	5.74	12.32	9.17
Spray Materials	.41	.05	.42	.10	. . .	.23
Fertilizer	16.10	9.29	9.78	11.38	10.00	12.93
Manure	4.24	6.10	5.95	5.55	5.61	5.02
Miscellaneous	1.15	. . .	. . .	.97	. . .	.60
Contract Planting	.04	1.68	. . .	.37	. . .	.24
Labor Growing	19.34	19.92	21.20	21.66	20.78	20.04
Total Growing Costs	59.70	53.91	50.21	58.07	57.08	57.61
Picking	33.25	25.80	21.49	19.23	30.13	30.17
Marketing	20.92	14.47	11.23	11.26	17.02	18.03
Total Harvesting Costs	54.17	40.27	32.72	30.49	47.15	48.20
TOTAL COSTS	$113.87	$ 94.18	$ 82.93	$ 88.56	$104.23	$105.82
Cost Per Ton	11.04	11.45	12.23	12.33	10.23	10.92
HARVESTING PER TON:						
Picking	$ 3.22	$ 3.14	$ 3.17	$ 2.68	$ 2.96	$ 3.11
Marketing	2.03	1.76	1.66	1.57	1.67	1.86
TOTAL HARVESTING PER TON	$ 5.25	$ 4.90	$ 4.83	$ 4.25	$ 4.63	$ 4.97

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Tomato Costs and Production Practices in 1940

PICKING BY MACHINE IS A LANCASTER COUNTY INNOVATION

Pickers rest in burlap supports, shaded and entertained by radio. In any case careful supervision of pickers is necessary and it pays to keep track of every picker. Quality pays.

The following table shows the man, horse, and truck and tractor hours used in the production of an acre of tomatoes and the cost of these operations calculated from the time required to perform them:

	Man Hours	*Horse Hours*	*Tractor Hours*	*Cost*
Growing plants	.4	.01	. . .	$ .06
Hauling manure and fertilizer	6.71	7.29	1.67	4.20
Plowing	2.58	2.89	1.49	2.35
Discing	1.39	.51	1.21	1.45
Harrowing	.78	1.32	.30	.65
Rolling	.19	.36	.03	.13
Dragging	.05	.08	.01	.03
Applying fertilizer	1.71	1.88	.31	.97
Planting	8.78	2.42	.94	3.36
Replanting	2.42	. . .	. . .	.60
Spraying, dusting	.36	.07	.04	.13
Cultivating	8.11	11.30	1.40	4.91
Weeding	5.02	. . .	. . .	1.26
Picking	32.81	. . .	. . .	8.20
Hauling to market	12.63	.93	9.02	10.96
Labor of growing	38.10	29.12	7.40	20.04
TOTAL LABOR	83.78	29.06	16.42	$39.26

Tomato Costs and Production Practices in 1940

The total labor cost is $39.26 per acre, or 37.10 per cent of the total cost. Nearly four times as many man hours were spent in picking as in any other operation and, in addition, $21.97 was spent for contract and day labor for this operation. The total picking cost was 28.51 per cent of the total cost. Hauling to market was the next most costly operation. It was 27.91 per cent of the total labor and power cost and, in addition, $7.07 per acre was spent for hired hauling.

EFFICIENCY IN MARKETING STARTS AT THE FARM

Cultivating and weeding accounts for 15.72 per cent of the labor cost. There was considerable variation in this cost. By cultivating at the proper time, four to five cultivations will produce the crop. Some growers found six to seven cultivations necessary and hoeing and weeding in addition.

The cost of planting and replanting was $4.20 per acre.

As will be seen from the table on the following page, the cost of harvesting and marketing is about half the total cost of producing the crop. The labor of growing is 18.94 per cent of the total cost of the crop. Cost of plants vary greatly depending on the source of the plants.

The following items were actual cash expense in producing the crop:

	Per Acre	*Per Ton*
Cost of contract planting	$ .24	$ .02
Cost of plants purchased	9.32	.96
Cost of spray materials	.23	.02
Cost of fertilizer	9.17	.95
Miscellaneous—baskets, insurance, etc.	.60	.06
Picking hired	21.97	2.27
Hauling hired	7.07	.73
	$48.60	$5.01

Thus, 45.93 per cent of the total cost of producing the crop was actual cash expense, 37.10 per cent was labor cost, and 16.97 per cent was for overhead, manure, etc.

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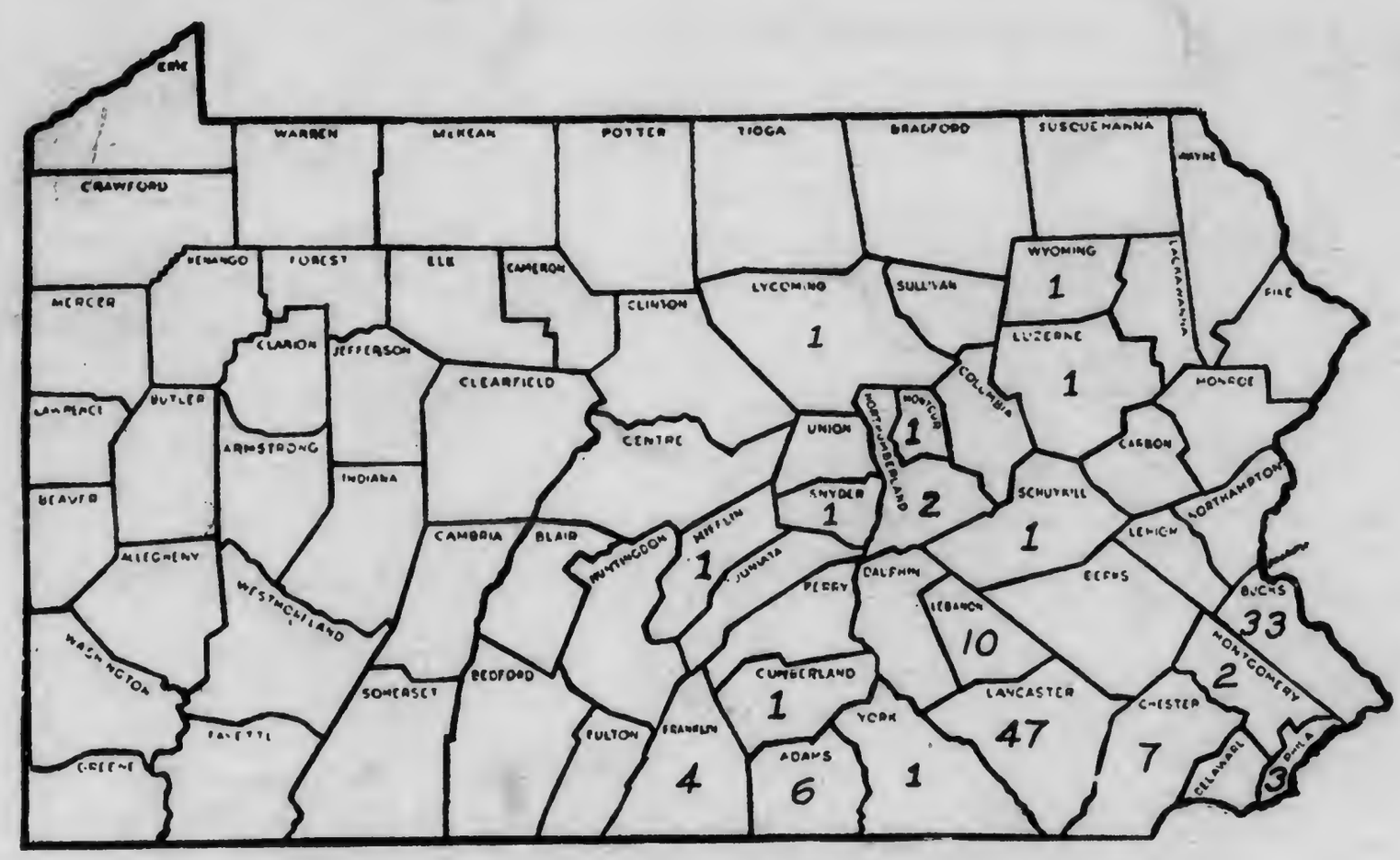

Distribution of Pennsylvania Ten-Ton Tomato Club Members in 1940

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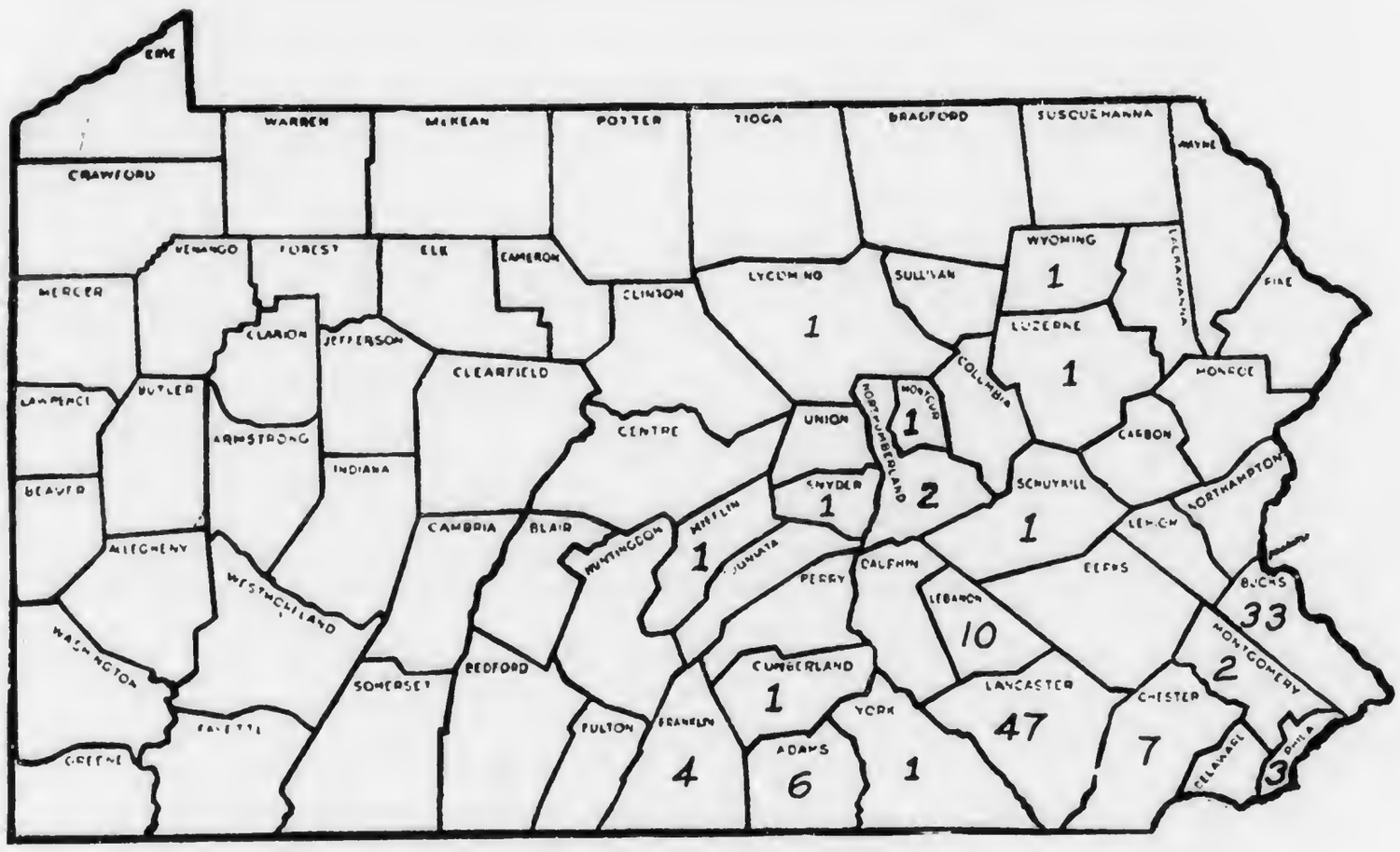

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INTENTIONAL SECOND EXPOSURE

END OF YEAR